

Transparent Ready™

Web-enabled Power & Control

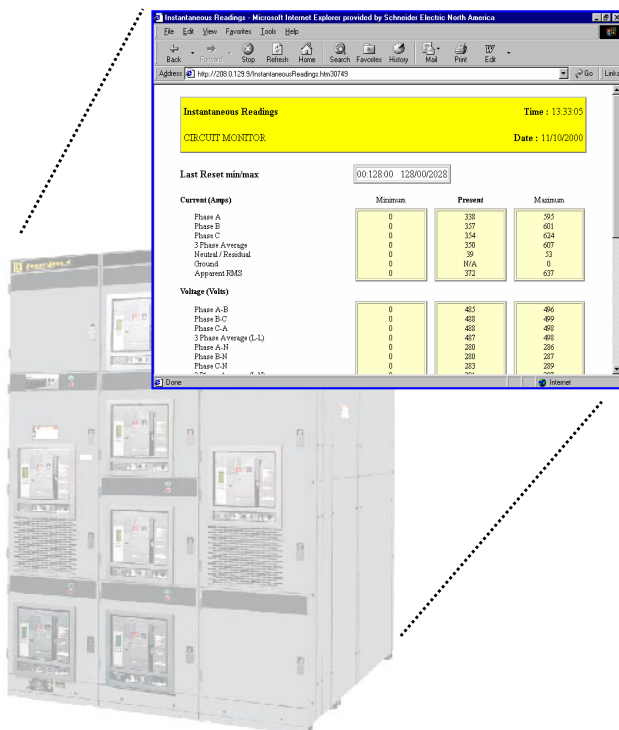
Transparent Ready™ Equipment

Merlin Gerin

Modicon

Square D

Telemecanique



Schneider Electric

Transparent Ready™ is a company-wide initiative by Schneider Electric across power and control

Are you Transparent Ready?

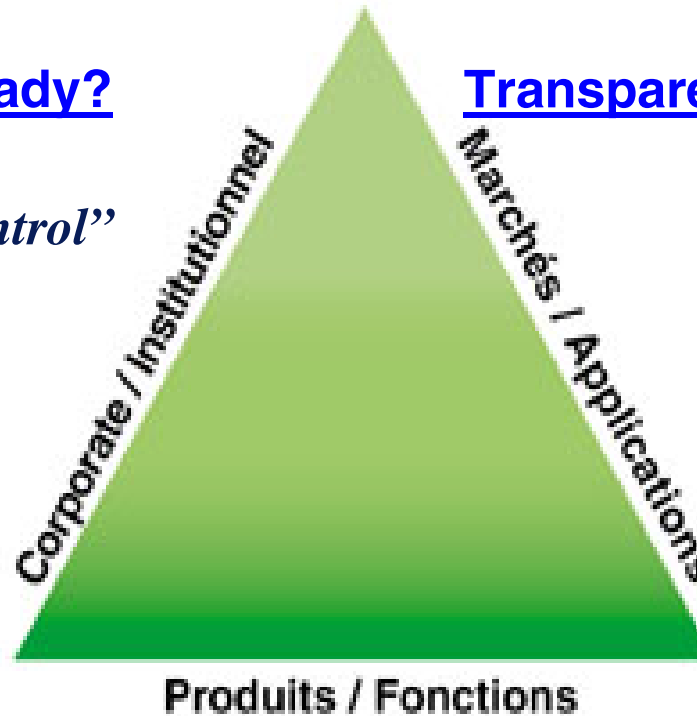
a corporate concept:

“Web-enabled Power & Control”

Transparent Ready™ solutions

for automation and control:

Transparent Factory™



Transparent Ready™ products

for use in system solutions across all markets:

Transparent Ready™ Equipment

Transparent Ready™ Power Components

Transparent Ready™ Control Components

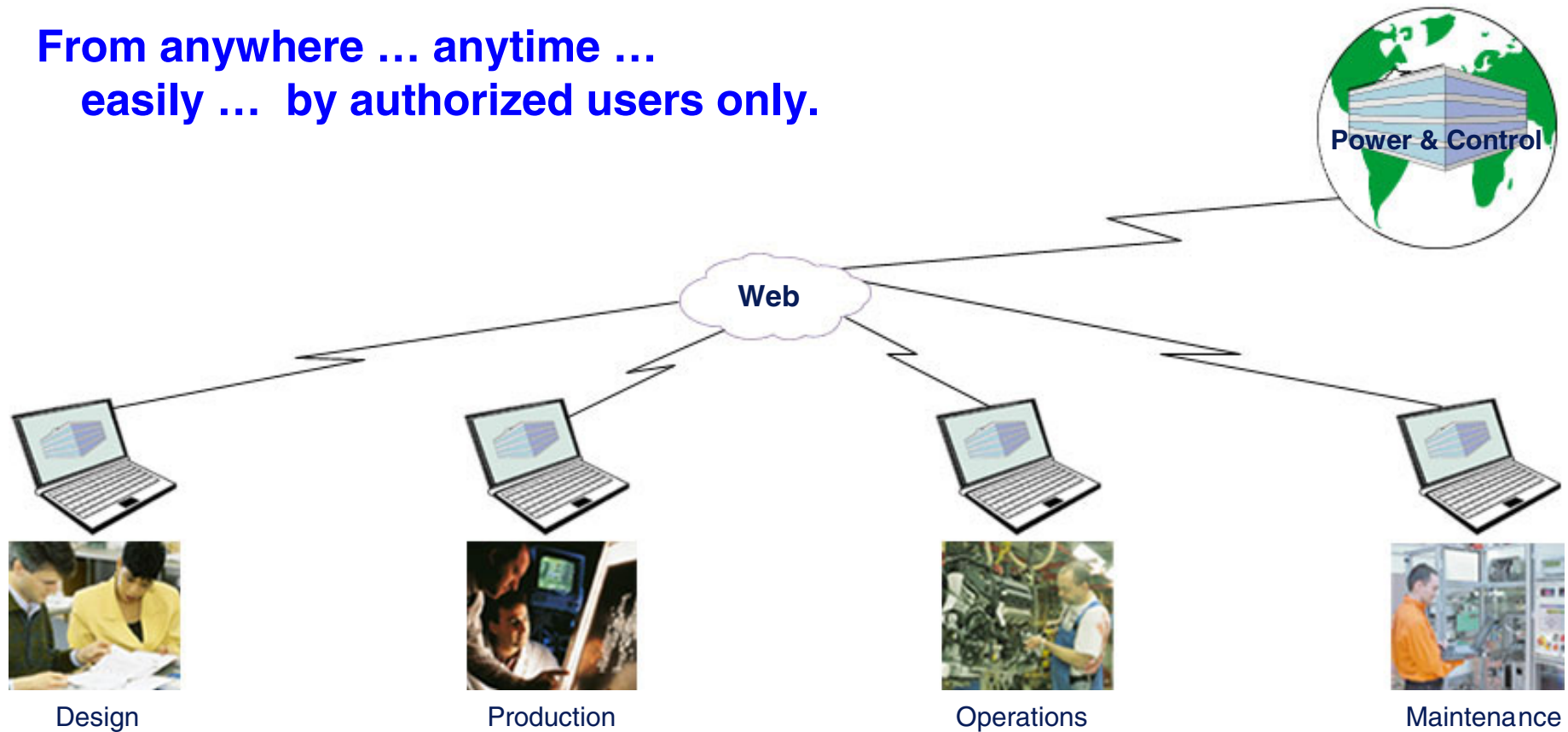


Transparent Ready™ means ...

- **the power of information:** fast, simple and shared access to valuable power and control information.
- **web-enabled:** integral Ethernet port and embedded web server to present information.
- **interoperability:** of power and control products from Schneider Electric and alliance partners based on open standards and web technologies.
- **ease-of-use:** a common browser-based user interface to access all power and control information, reducing training time virtually to zero.
- **affordability:** leverage your existing IT network infrastructure and expertise, not add new wires based on proprietary networks.
- **simplicity:** products that are easy to commission. From MV and LV switchgear and switchboards to MCCs to drives, starters and PLCs, all products connect the same way to your network, just like adding a PC or printer.
- **security:** knowing your data is secure and available only to authorized users.
- **freedom:** thanks to web technologies, you're connected 24/7.

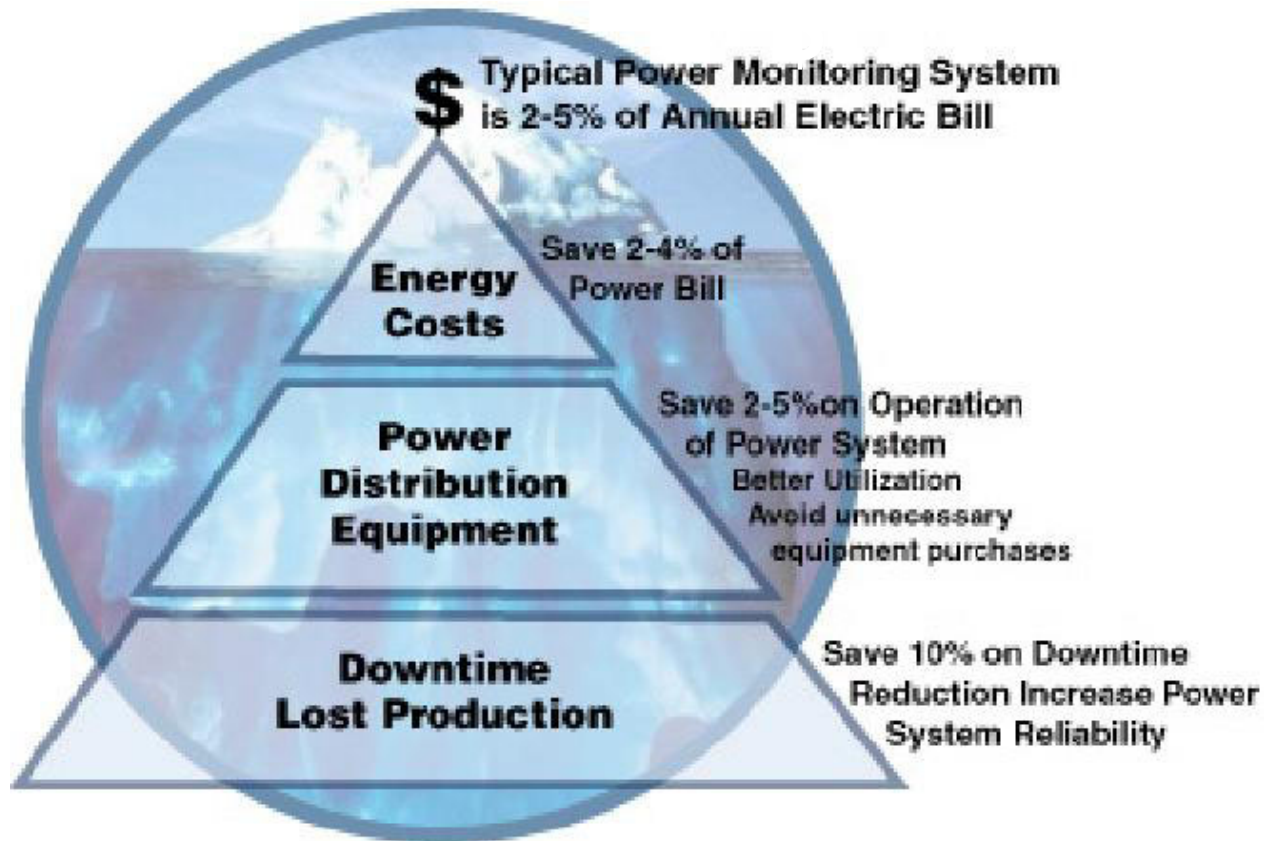
*Transparent Ready™ equipment ensures simple,
shared, and authorized access to information*

**From anywhere ... anytime ...
easily ... by authorized users only.**





Transparent Ready™ Equipment: information to manage total costs

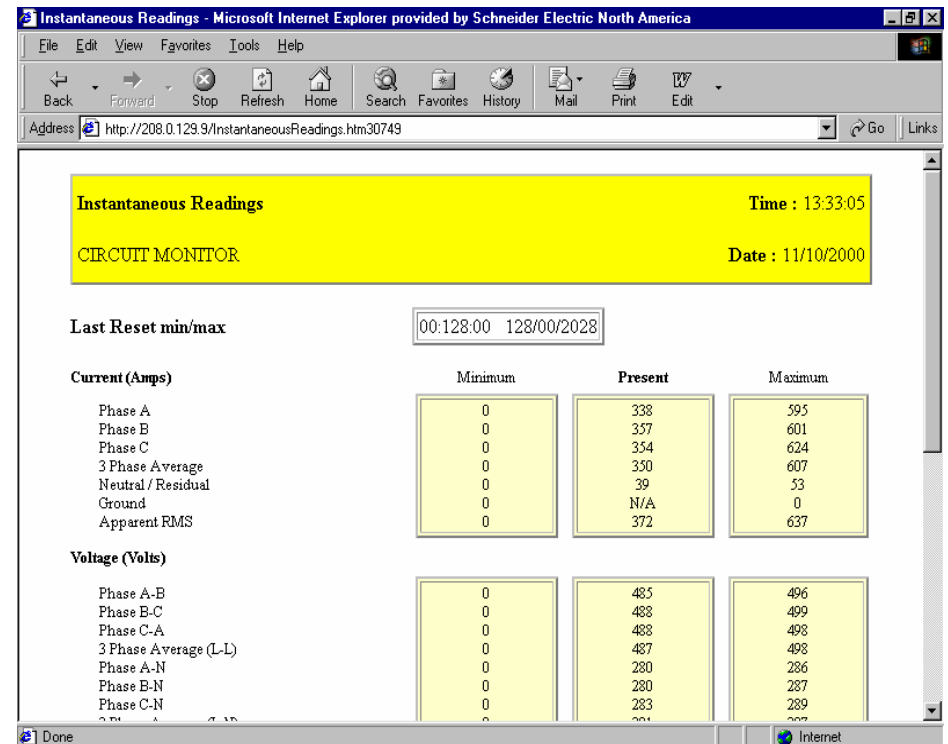


- Reduce energy costs
- Increase equipment utilization
- Improve reliability of supply

*With Transparent Ready™ equipment from
Schneider Electric you can have this ... and more!*



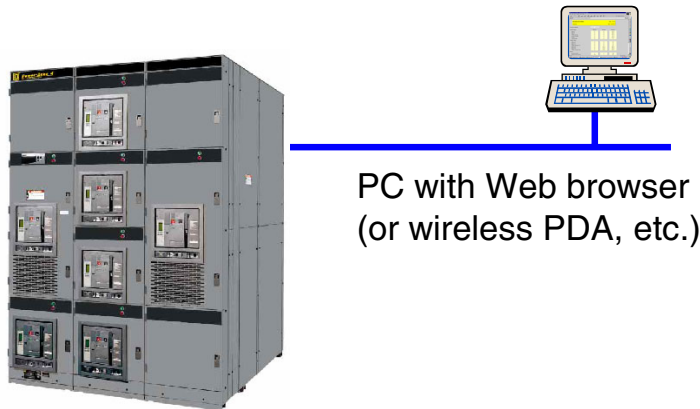
**Power equipment
ready to connect to
an Ethernet network**



*Power system information is available “transparently”
via any PC on your network, using just a browser!*



How can Transparent Ready equipment benefit me?



Power equipment
connected to an
Ethernet network

■ Reduce operational costs

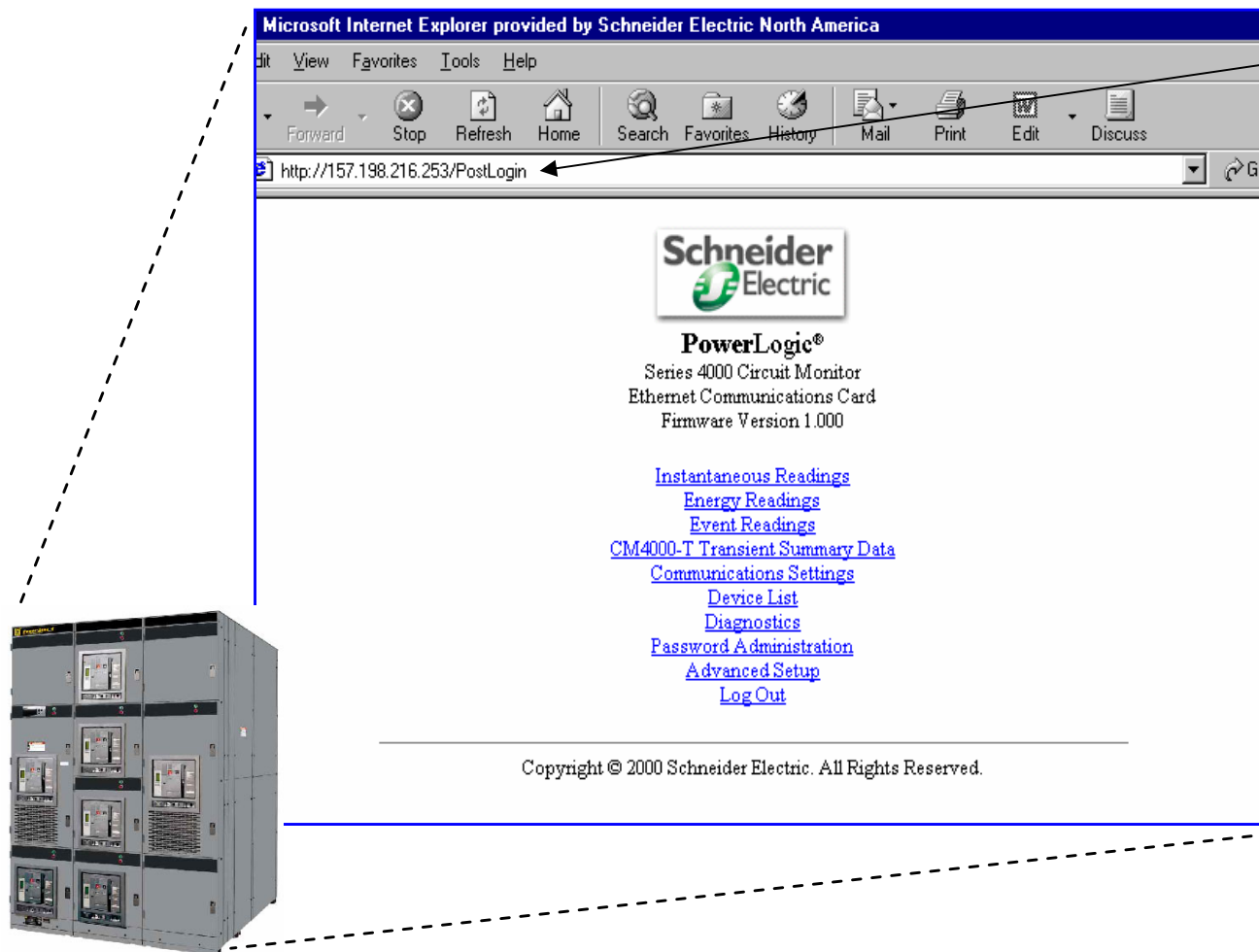
- ☐ Save time: read meters instantly via PC instead of walking all day
- ☐ Reduce energy costs: monitor energy use
- ☐ Save money on equipment: know where spare capacity exists
- ☐ Reduce downtime: identify problems before they cause an outage

■ No system integration costs

- ☐ Equipment connects to existing Ethernet LAN using standard Ethernet cable
- ☐ Enter the IP address and it's ready to go!
- ☐ No software to buy -- just use a web browser



How do I access the information?



■ Just type the IP address into your browser for instant access!

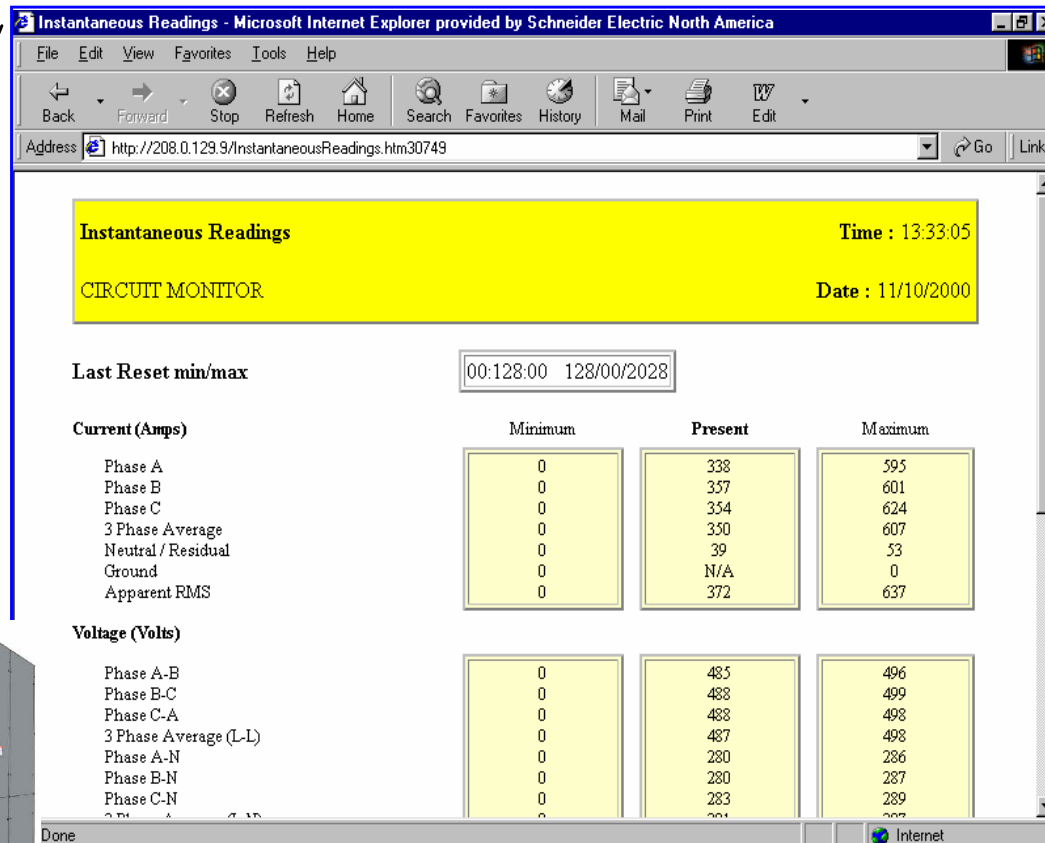
■ A login screen ensures authorized access only.

■ A simple menu offers several choices:

- ☐ Main metering
- ☐ Five summary tables for all circuits
- ☐ Setup



Main metering readings : at your desktop



■ Main metering page (from Circuit Monitor CM-3000 or CM4000):

- Instantaneous readings
- Minimum and maximum values (since last reset)





Real-time data from all circuits

Summary - Microsoft Internet Explorer provided by Schneider Electric North America

View Favorites Tools Help

Forward Stop Refresh Home Search Favorites History Mail Size Print Edit Messenger

http://157.198.224.150/CustomPage1.htm22529

Search Web Search Site Page Info Up Highlight

Circuit Summary				
Time: 9:38:14				
Equipment: Sub 01				
Date: 26-10-2001				
Circuit	RMS Current (Amps) 3-phase Avg.	Real Power (kW)	Power Factor	Breaker Status
CM4000_01	173	28	0.46 lag	---
CM4000_02	173	28	0.46 lag	---
CM2350	1000	29	1 lead	---
PM650	1396	291	1 lead	---

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5 additional pages of "summary tables" (for all circuits):

- Circuit summary, with breaker status (if applicable)
- RMS load currents for each phase
- Demand currents for each phase
- Demand power, present and peak
- Energy readings

link to live demo: 

Information details : circuit summary WEB page

Summary - Microsoft Internet Explorer provided by Schneider Electric North America

View Favorites Tools Help

Forward Stop Refresh Home Search Favorites History Mail Size Print Edit Messenger

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PM650	1396	291	1 lead	---

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- **Circuit summary (from all circuits):**
 - Loading information
 - Breaker status (if applicable)
- **Allows quick check of status of all circuits**





Information details : load current WEB page

ent Summary - Microsoft Internet Explorer provided by Schneider Electric North America

View Favorites Tools Help

Forward Stop Refresh Home Search Favorites History Mail Size Print Edit Messenger

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Search Web Search Site Page Info Up Highlight

Load Current Summary Time: 9:38:38

Equipment: Sub 01 Date: 26-10-2001

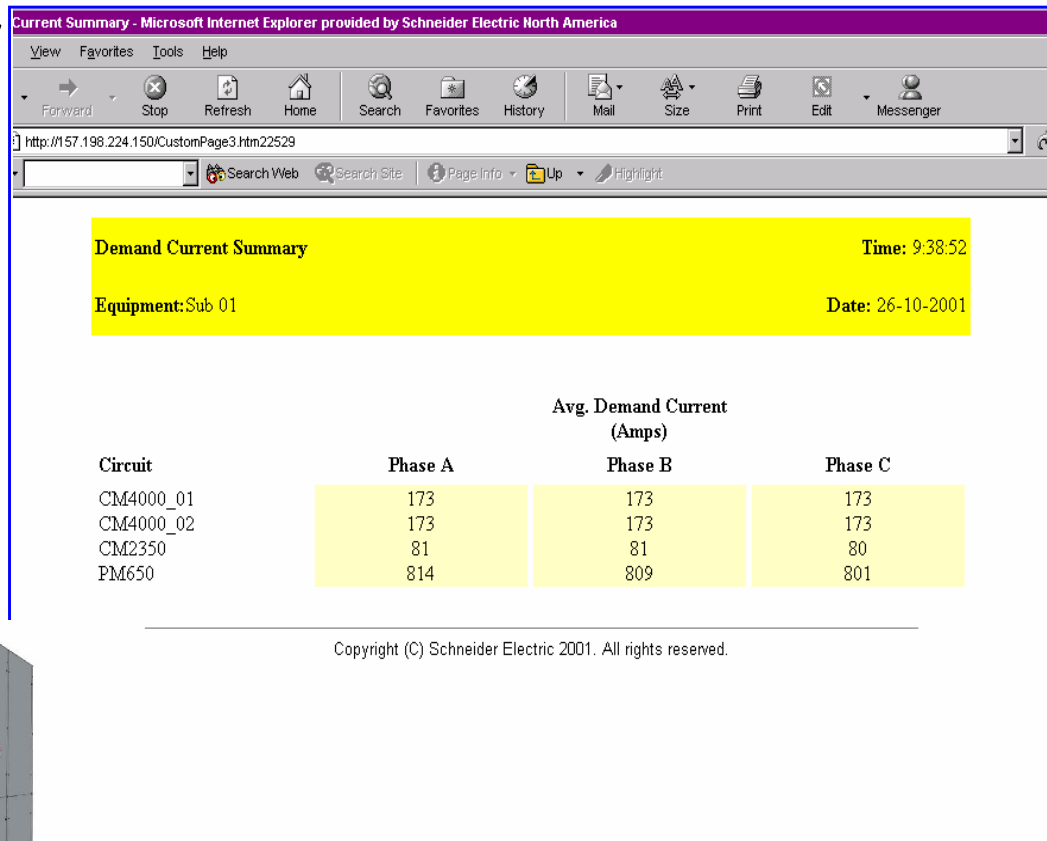
Circuit	RMS Current (Amps)		
	Phase A	Phase B	Phase C
CM4000_01	172	172	172
CM4000_02	172	172	172
CM2350	81	81	80
PM650	813	808	801

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- Load current (from all circuits):
 - RMS current from all 3 phases
- Helps you verify loading, balance among phases



Information details : demand current WEB page



- Demand current (from all circuits):
 - Loading information based on average demand
- Know where spare capacity exists
- Identify potential overloads





Information details : power summary WEB page

Summary - Microsoft Internet Explorer provided by Schneider Electric North America

View Favorites Tools Help

Forward Stop Refresh Home Search Favorites History Mail Size Print Edit Messenger

http://157.198.224.150/CustomPage4.htm22529

Search Web Search Site Page Info Up Highlight

Power Summary Time: 9:37:03

Equipment: Sub 01 Date: 26-10-2001

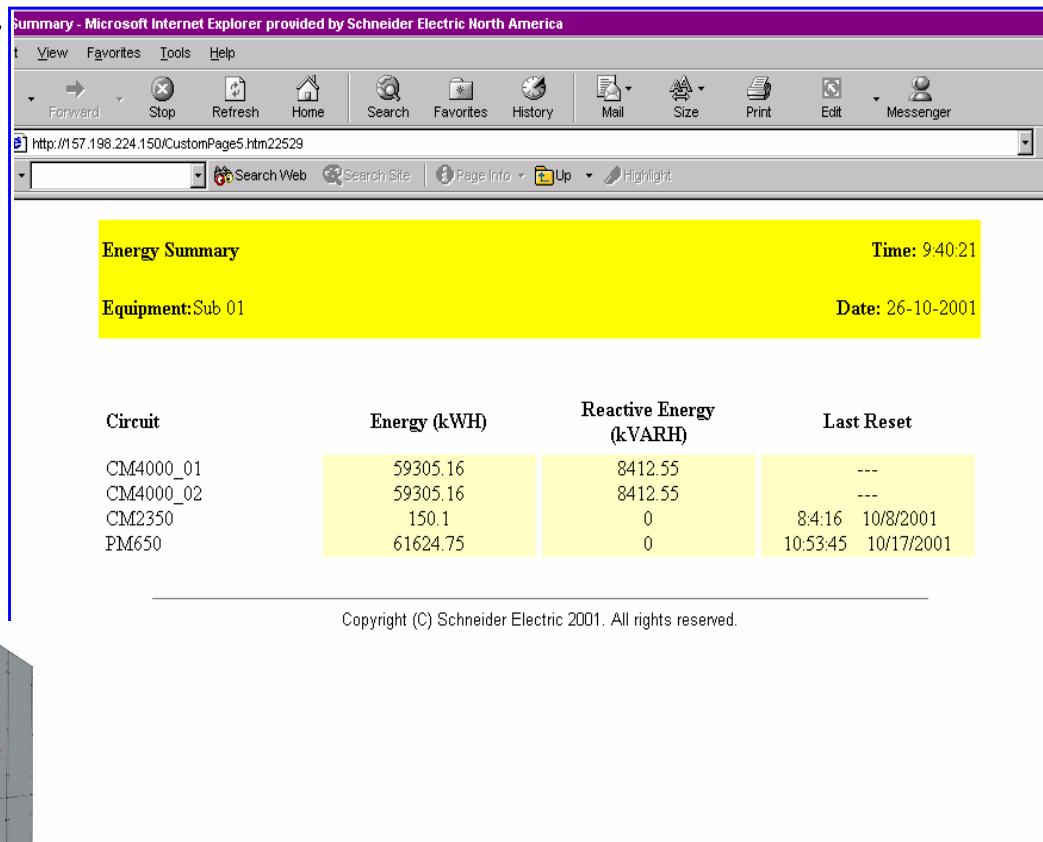
Circuit	Present Demand (kW)	Peak Demand (kW)	Recorded Time & Date
CM4000_01	28	30	11:59:2 9/28/2001
CM4000_02	28	30	11:59:2 9/28/2001
CM2350	29	1910	9:54:55 7/26/2001
PM650	294	1889	12:53:23 8/7/2001

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- **Demand power (from all circuits):**
 - Power usage, present and peak
 - Date/time of last peak
- **Helps you manage demand portion of your electric bill**
- **Know where and when peaks are set**

Information details : energy summary WEB page



Circuit	Energy (kWH)	Reactive Energy (kVARH)	Last Reset
CM4000_01	59305.16	8412.55	---
CM4000_02	59305.16	8412.55	---
CM2350	150.1	0	8:4:16 10/8/2001
PM650	61624.75	0	10:53:45 10/17/2001

■ Energy readings (from all circuits):

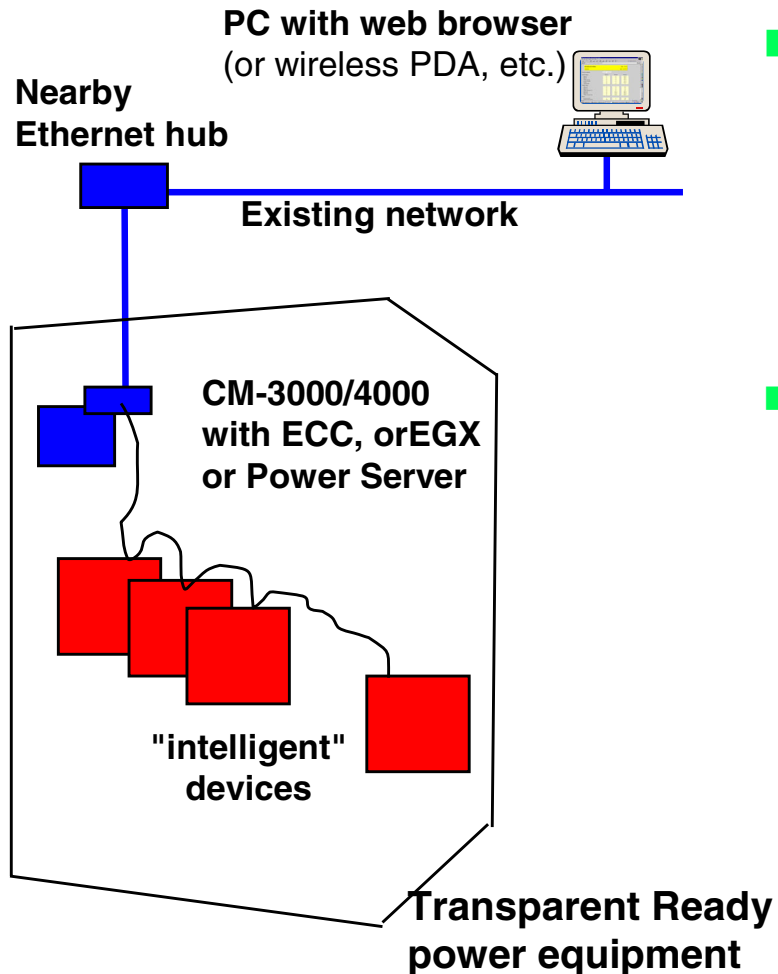
- Energy usage, real and reactive
- Date/time of last energy reset

■ Allows you to allocate energy costs based on actual usage

■ Encourage energy savings among departments

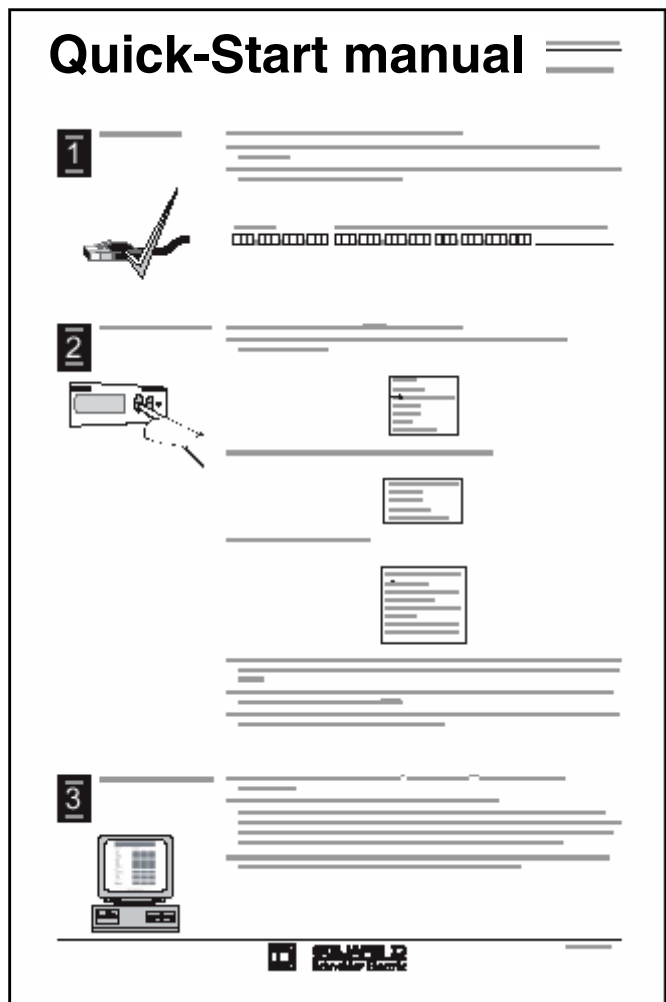


Transparent Ready™ equipment is WEB-enabled via POWERLOGIC® technology



- **Intelligent devices are connected to your network via a POWERLOGIC Ethernet interface:**
 - CM3000/4000 + Ethernet card (ECC), or
 - Stand-alone Ethernet gateway (EGX), or
 - Power Server (with optional local display)
- **With any of the following on the feeders:**
 - MASTERPACT or POWERPACT breakers with MICROLOGIC type A, P or H trip units
 - SEPAM 1000+ medium-voltage protective relays
 - Circuit Monitors: CM4000, CM3000 or CM2000
 - Power Meters, Enercept or Energy Meters
 - MOTORLOGIC-PLUS motor relays
 - ALTIVAR drives and soft-start relays
 - Model 98 transformer temperature controllers

“Quick-Start” instruction manual for Transparent Ready™ Equipment ensures trouble-free start-up



- **A single Ethernet interface serves web pages for the entire lineup**
- **Web pages are stored in the equipment**
- **Step-by-step instructions ensure trouble-free commissioning:**
 - Verify equipment connection to near-by hub on your LAN
 - Get IP address from LAN administrator
 - Local setup: Enter this address into server (ECC, EGX, etc.)
 - Type the IP address into your browser for instant access to power information!
- **Same bulletin used for any Transparent Ready equipment – it's that simple.**



Front-accessible Ethernet connector greatly facilitates commissioning and normal operation*



- No need to open energized equipment
- Quick-start guide outlines setup procedure
- Use standard Ethernet cable to connect your laptop PC to the equipment
- Same connector can be used anytime after commissioning to connect to network and access data instantly









Access to valuable power system information ... anytime... from anywhere...

*** Note: Not supplied with ECC.**



Transparent Ready™ equipment ensures a common user interface for all styles of power equipment





8 styles of power equipment ...

Masterclad	HVLcc	Motorpact	PZ-4	QED-6	QED-2	Model 6	(coming 2003)
							
MV metal-clad switchgear	MV metal-enclosed switchgear	MV motor control	LV drawout switchgear	LV rear-connect switchboard	LV group-mtd switchboard	LV MCC	LV panelboard

... 1 way to access the information.



Available levels of Transparent Ready™ equipment

	<u>Level</u>	<u>Transparent Ready functionality</u>
	TR-4	
	Custom	■ Custom-engineered solutions for a specific application (graphics, controls)
	TR-3	
	Comprehensive	■ Complete power monitoring and analysis built on a standard platform (coming 2003)
	TR-2	
	Deluxe	■ WEB server with pre-defined graphical user interface (coming 2003)
	TR-1	
	Essential	■ Ethernet connection with web server to present real-time data (available now)

Comprehensive power monitoring and analysis (level TR-3)



Real-time data

- Meter displays for any circuit via web browser
- Tables and bar charts
- Color-coded bands for normal and alarm levels, set by user

Historical trends

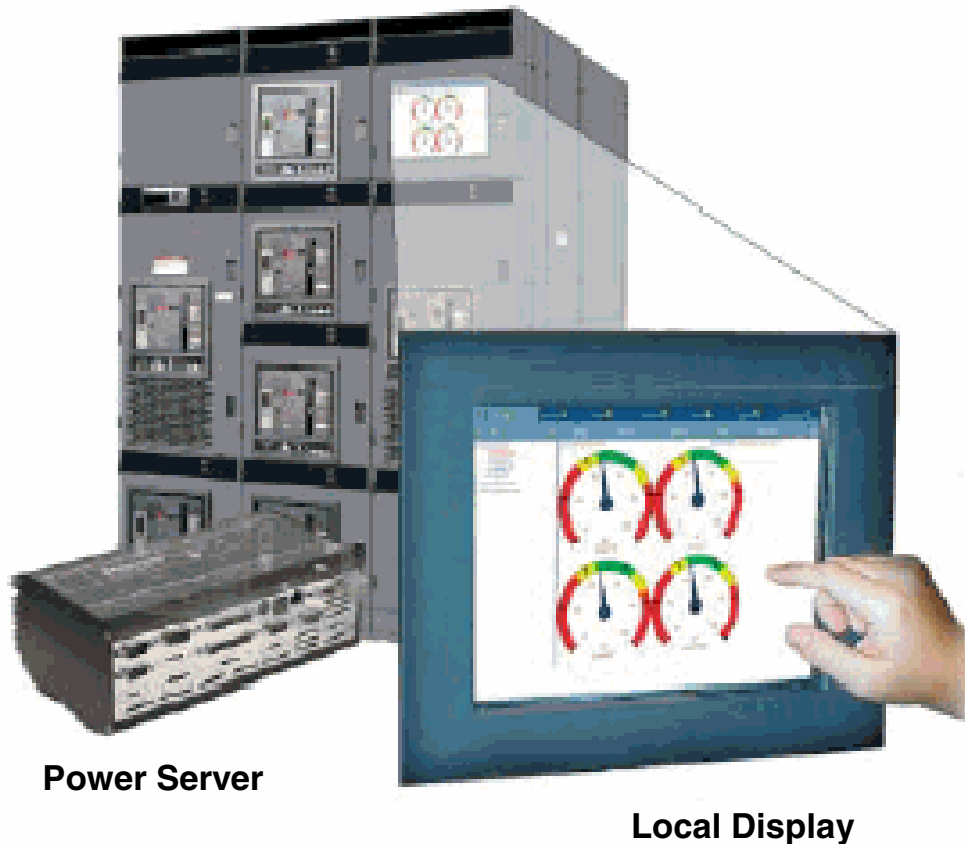
- Data logging, trending reports
- Snapshot waveforms associated with events

Much more analysis

- Alarms and event recording
- Harmonics analysis
- Disturbance monitoring, voltage sags and surges
- Custom web-page reports



Optional touch-screen display (level TR-3)



Power Server

Local Display

■ **Local display for entire equipment line-up**

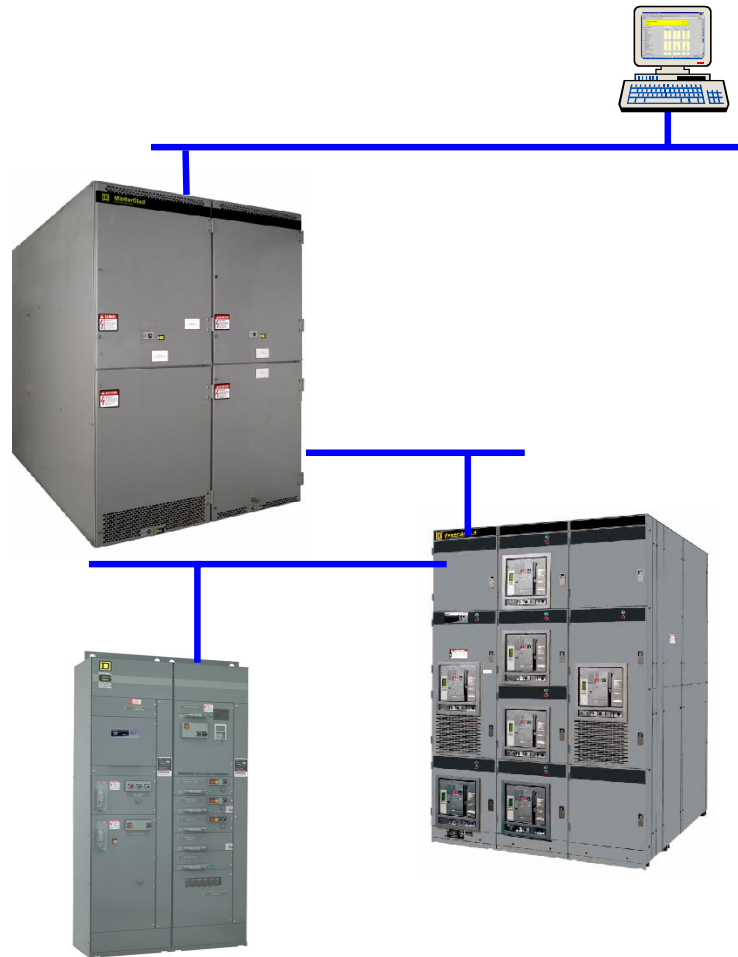
- Centralized user interface for breakers, relays and meters
- View all web pages right at the equipment
- Same pages available locally or remote

■ **Customized views of equipment available**

- Equipment status via one-line diagrams, electronic mimic bus
- Instant access to troubleshooting information
- Standard product, configurable according to user preferences



A simple and affordable start to a complete POWERLOGIC[®] power monitoring & control system



■ Add PowerLogic SMS software to any PC for more in-depth monitoring and analysis

- Power quality analysis
- Voltage disturbance monitoring
- Alarm/Event recording
- Data-logging and trending
- Meters and bar-charts
- Dynamic one-line diagrams and customized facility drawings
- Complete view of entire power system, with virtually unlimited number of devices
- Much more

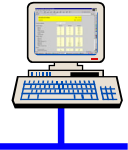


A complete range of services available to help you succeed

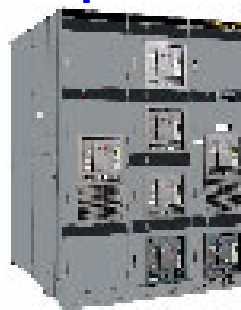


■ **Square D engineering professionals offer power management expertise :**

- Create additional web pages or other custom solutions to your specifications
- Provide equipment, systems and software maintenance contracts
- Provide expert analysis and recommend solutions for power quality and energy management
- Offer priority technical support and training
- Specialized applications such as load forecasting, disturbance analysis, compliance verification, and much more.



*Transparent Ready™ equipment:
information anytime ... anywhere.*



**Web-enabled by
POWERLOGIC
technology**